

WHAT IS CLAIMED IS:

1           1. A battery system for providing power to a device, comprising:  
2                 a battery compartment which can accommodate at least one rechargeable  
3         battery pack interchangeably with at-least one non-rechargeable battery; and  
4                 a rechargeable battery pack including:  
5                     at least one rechargeable battery;  
6                     a recharging module coupled to the rechargeable battery for charging the at  
7         least one rechargeable battery;  
8                     a detection module in communication with the device to detect when the  
9         rechargeable battery pack is inserted into the battery compartment.

1           2. The battery system of claim 1, wherein the rechargeable battery pack  
2         further comprises:  
3                 a metering module for tracking the amount of battery power in the at least one  
4         rechargeable battery.

1           3. The battery system of claim 1, wherein the device is coupled to an  
2         external power supply to charge the at least one rechargeable battery through the recharging  
3         module.

1           4. The battery system of claim 3, wherein the external power supply is  
2         provided by an AC source.

1           5. The battery system of claim 3, wherein the external power supply is  
2         provided by a host bus of the device.

1           6. The battery system of claim 3, wherein the at least one rechargeable  
2         battery provides power to the device only when the device is not coupled to the external  
3         power supply.

1           7. The battery system of claim 1, wherein the detection module comprises  
2         at least one connector pad which makes contact with a corresponding at least one connector  
3         pad in the battery compartment, and wherein contact between the at least one connector pad  
4         and the corresponding at least one connector pad indicates that the rechargeable battery pack  
5         has been inserted into the device.

1                   8.     The battery system of claim 1, wherein the battery compartment  
2 comprises:

3                   a first battery contact pad for establishing contact with a first terminal of either  
4 the at least one rechargeable battery or the at least one non-rechargeable battery;

5                   a second battery contact pad for establishing contact with a second terminal of  
6 either the at least one rechargeable battery or the at least one non-rechargeable battery;

7                   a detection contact pad for establishing contact with a detection contact pad on  
8 the rechargeable battery pack, wherein such contact indicates that a rechargeable battery pack  
9 has been inserted into the battery compartment.

1                   9.     The battery system of claim 1, wherein the device is a camera.

1                   10.    A battery compartment for accommodating at least one rechargeable  
2 battery pack interchangeably with at least one non-rechargeable battery, the at least one  
3 rechargeable battery pack including at least one rechargeable battery, the battery  
4 compartment comprising:

5                   a first battery contact pad for establishing contact with a first terminal of either  
6 the at least one rechargeable battery or the at least one non-rechargeable battery;

7                   a second battery contact pad for establishing contact with a second terminal of  
8 either the at least one rechargeable battery or the at least one non-rechargeable battery;

9                   a detection contact pad for establishing contact with a detection contact pad on  
10 the rechargeable battery pack, wherein such contact indicates that a rechargeable battery pack  
11 has been inserted into the battery compartment.

1                   11.    A rechargeable battery pack for providing power to a device, wherein  
2 the rechargeable battery pack can be used in the device interchangeably with the at least one  
3 non-rechargeable battery, the rechargeable battery pack comprising:

4                   at least one rechargeable battery;

5                   a recharging module coupled to the rechargeable battery for charging the at  
6 least one rechargeable battery;

7                   a detection module in communication with the device to detect when the  
8 rechargeable battery pack is inserted into the device.

1               12. The rechargeable battery pack of claim 11, further comprising a  
2 metering module for tracking the amount of battery power in the at least one rechargeable  
3 battery.

1               13. The rechargeable battery pack of claim 11, wherein the device is  
2 coupled to an external power supply to charge the at least one rechargeable battery through  
3 the recharging module.

1               14. The rechargeable battery pack of claim 13, wherein the external power  
2 supply is provided by an AC source.

1               15. The rechargeable battery pack of claim 13, wherein the external power  
2 supply is provided by a host bus of the device.

1               16. The rechargeable battery pack of claim 13, wherein the at least one  
2 rechargeable battery provides power to the device only when the device is not coupled to the  
3 external power supply.

1               17. The rechargeable battery pack of claim 11, wherein the detection  
2 module comprises at least one connector pad which makes contact with a corresponding at  
3 least one connector pad in a battery compartment in the device, and wherein contact between  
4 the at least one connector pad and the corresponding at least one connector pad indicates that  
5 the rechargeable battery pack has been inserted into the device.

1               18. The rechargeable battery pack of claim 11, wherein the device is a  
2 camera.

1               19. A method of using at least one rechargeable battery pack  
2 interchangeably with at least one non-rechargeable battery to provide power to a device, the  
3 method comprising:

4               providing a battery compartment in the device which can accommodate the  
5 rechargeable battery pack interchangeably with the at least one non-rechargeable battery; and  
6               detecting when the rechargeable battery pack is inserted into the battery  
7 compartment.

1                   20.     The method of claim 19, wherein the rechargeable battery pack  
2 includes at least one rechargeable battery.

1                   21.     The method of claim 20, further comprising:  
2                   charging the at least one rechargeable battery when the device is connected to  
3                   an external power source.

1                   22.     The method of claim 21, wherein the external power source is provided  
2 by an AC source.

1                   23.     The method of claim 21, wherein the external power source is provided  
2 by a host bus of the device.

1                   24.     The method of claim 19, further comprising:  
2                   metering the battery power in the at least one rechargeable battery.